



High Country Tek, Inc.

# Hydraulic Fan System Controller - HFS-3-24V

Electronic Control Solutions for the Global Fluid Power Industry



## Application Information:

- Direct connect to low frequency PWM engine ECU fan speed signal
- 24V - 600mA version of open loop single coil valve driver
- Can be used with all types of fluid control products
- Uni directional open loop pump stroker or valve controller
- DIN 43650 footprint for mobile or industrial products

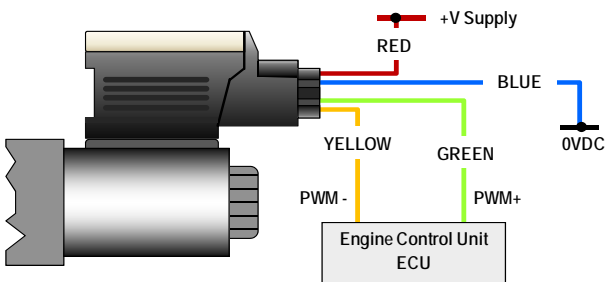
## Product Feature Overview:

- Single PWM output for any make of proportional valve or pump control
- Linear Input to output curve to give best control resolution
- ALL settings by potentiometer under unit translucent lid
- Pre-connected 3m/10 foot color coded cable for easy connections
- LED diagnostics show full controller operation at all times
- Mounting hardware and gaskets supplied with each controller
- Meets latest CE latest test standards & Sealed to meet NEMA 6P or IP 67

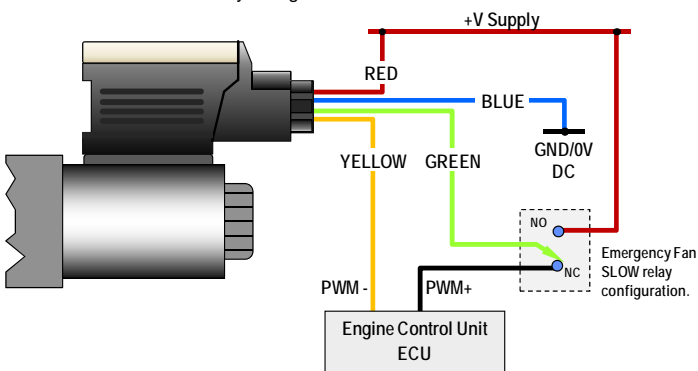


Order **HFS 3-24V** for this unit

## Electrical Connection Diagrams:



**NOTE:** The 'Emergency Fan SLOW' configuration shown below assumes that the controller is being used in Inverted mode: 10% PWM = fan full on, 90% PWM = fan full off. Closing the relay will force the input to input supply voltage and the fan will be controlled to fully OFF and will remain in this state until the relay is released. If the NON-Inverted mode is selected, the relay should be connected to 0V to achieve fan OFF when relay energized.



## Controller Specification Overview:

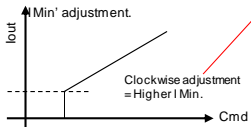
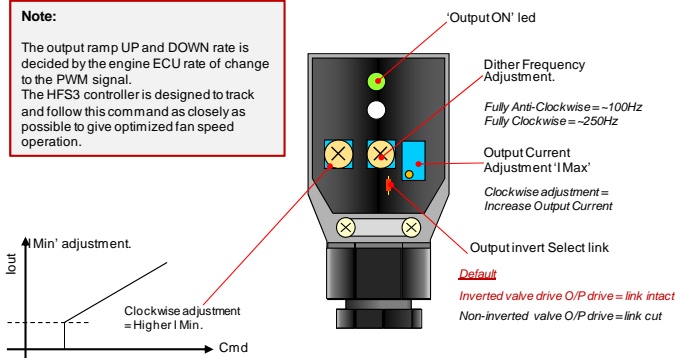
<b>Housing Type:-</b>	HCT unique 'encapsulated' block.
<b>Input Supply Voltage:</b>	24VDC $\pm 20\%$ ( Absolute Maximum )
<b>Input Supply Current:</b>	Valve Current Setting + 200mA Quiescent (Max)
<b>Command Input Type:</b>	PWM from engine ECU
<b>Command Input Value:</b>	5V ( 10% to 90% PWM )
<b>CMD I/P Frequency:</b>	20 to 125Hz
<b>Input Resistance:</b>	1200 Ohms
<b>Dither Frequency :</b>	Adjustable, ~100 to ~250Hz ( $\pm 20\%$ )
<b>Housing Material:-</b>	High Impact resistance ABS.
<b>Wire Connections:-</b>	3M/10' pre-connected color coded cable
<b>Encapsulation:-</b>	Flameproof epoxy resin filled
<b>Mounting:-</b>	DIN 43650 connector footprint
<b>Temperature range:-</b>	-20 to +70 $^{\circ}$ C ( operational )
<b>NEMA/IP Rating:</b>	NEMA 6P/67 when assembled and mounted to coil correctly



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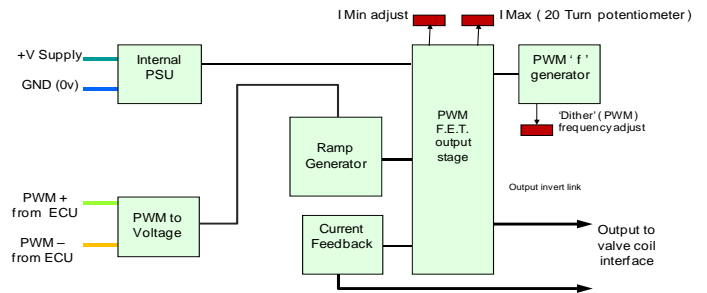
## Adjustment Guide:

**Note:**  
The output ramp UP and DOWN rate is decided by the engine ECU rate of change to the PWM signal. The HFS3 controller is designed to track and follow this command as closely as possible to give optimized fan speed operation.



View of HFS 3-24V with lid removed and no cable shown for clarity

## Block Diagram:

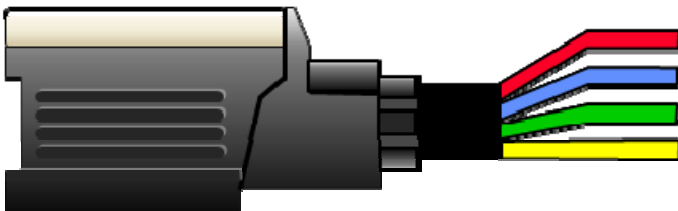


- IMax potentiometer is 20 turn with end travel clutch
- All other potentiometers are single turn variety - adjust with care
- ALL potentiometers are clockwise to increase respective value
- Unit is fully encapsulated in flame resistant black epoxy resin
- Controller M3 x 40 mounting screw and gasket supplied

## Connection Details:

Controller comes pre-wired with 3Meters / 10 feet of color coded cable that is selected for harsh environments and meets:

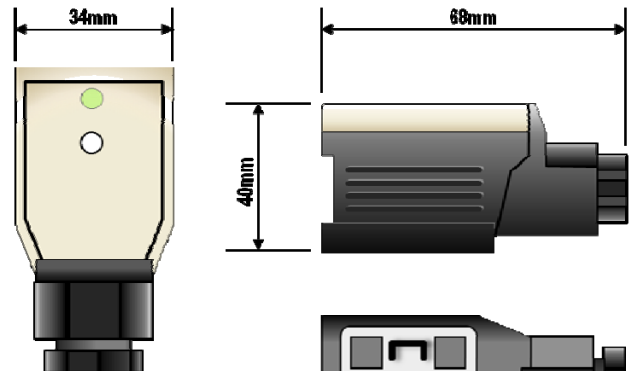
**4 core, 16/02 with PVC outer protection to Def Standard 16-12 Part 5 ( Screened ) 2.5 Amps/core @ 70°C Max Operating Temp.**



- RED** - +V Supply Input
- BLUE** - GND (0V) Supply Input
- GREEN** - PWM+ signal Input
- YELLOW** - PWM- signal Input

## Dimensional Data:

Pre-wired cable removed for clarity



Controller interfaces with industry standard DIN 43650 - 3 pin connector as shown

## Need More Information ?

For customer service, pricing, order placement and application support, contact us through E-mail at:  
[info@hctcontrols.com](mailto:info@hctcontrols.com)

[www.hctcontrols.com](http://www.hctcontrols.com)



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